

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The MONTHLY WEATHER REVIEW for June, 1901, is based on reports from about 3,100 stations furnished by employees and voluntary observers, classified as follows: regular stations of the Weather Bureau, 159; West Indian service stations, 13; special river stations, 132; special rainfall stations, 48; voluntary observers of the Weather Bureau, 2,562; Army post hospital reports, 18; United States Life-Saving Service, 9; Southern Pacific Railway Company, 96; Hawaiian Government Survey, 200; Canadian Meteorological Service, 32; Jamaica Weather Office, 160; Mexican Telegraph Service, 20; Mexican voluntary stations, 7; Mexican Telegraph Company, 3; Costa Rica Service, 7. International simultaneous observations are received from a few stations and used, together with trustworthy newspaper extracts and special reports.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. Curtis J. Lyons, Meteorologist to the Hawaiian Government Survey, Honolulu; Señor Manuel E. Pastrana, Director of the Central Meteorological and Magnetic Observatory of Mexico; Camilo A. Gonzales, Director-General of Mexican Telegraphs; Mr. Maxwell Hall, Government Meteorologist, Kingston, Jamaica; Capt. S. I. Kimball, Superintendent of the United States Life-Saving Service; Commander Chapman C. Todd, Hydrographer, United States Navy; H. Pittier, Director of the Physico-Geographic Institute, San Jose, Costa Rica; Captain François S. Chaves,

Director of the Meteorological Observatory, Ponta Delgada, St. Michaels, Azores, and W. M. Shaw, Esq., Secretary, Meteorological Office, London; Rev. Josef Algué, S. J., Director, Philippine Weather Service.

Attention is called to the fact that the clocks and self-registers at regular Weather Bureau stations are all set to seventy-fifth meridian or eastern standard time, which is exactly five hours behind Greenwich time; as far as practicable, only this standard of time is used in the text of the REVIEW, since all Weather Bureau observations are required to be taken and recorded by it. The standards used by the public in the United States and Canada and by the voluntary observers are believed to conform generally to the modern international system of standard meridians, one hour apart, beginning with Greenwich. The Hawaiian standard meridian is $157^{\circ} 30'$, or $10^{\text{h}} 30^{\text{m}}$ west of Greenwich. The Costa Rican standard of time is that of San Jose, $0^{\text{h}} 36^{\text{m}} 13^{\text{s}}$ slower than seventy-fifth meridian time, corresponding to $5^{\text{h}} 36^{\text{m}}$ west of Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are sometimes corrected to agree with the eastern standard; otherwise, the local standard is mentioned.

Barometric pressures, whether "station pressures" or "sea-level pressures," are now always reduced to standard gravity, so that they express pressure in a standard system of absolute measures.

FORECASTS AND WARNINGS.

By Prof. E. B. GARRIOTT, in charge of Forecast Division.

No general storms which required special forecasts or warnings occurred within the region of observation during June, 1901. Forecasts of the direction and force of the wind and the state of the weather along the transatlantic steamship routes from the American coast to the Banks of Newfoundland were issued daily at 8 a. m. and 8 p. m. These forecasts covered the first three days out of steamers bound east from United States ports, and the morning forecasts were published, together with forecasts of fog, in the weather maps issued at Boston, New York, Philadelphia, Baltimore, and Washington.

Frosts occurred in the Northwestern States, and from the northern Rocky Mountain districts over the North Pacific coast States in the early part of the month. Warnings were issued well in advance of the frost which occurred in the northwestern districts.

Drought which prevailed early in the month in the spring wheat States of the Northwest was broken by rains, the occurrence of which was covered by timely forecasts.

Heavy rains and destructive freshets occurred in the mountain districts of Virginia about the 17th, and on the 21st freshets caused loss of life and property in West Virginia.

Snow flurries were reported at Lagrande, Oreg., and in northern Vermont on the 4th. From the 11th to the 13th a depth of 4 inches or more of snow was reported in the hills about Antelope, Oreg., and on the 14th snow fell at Laramie, Wyo.

CHICAGO FORECAST DISTRICT.

One of the principal features was the breaking of the drought in the spring wheat States in the northwest early in the month. The rain came at a most opportune time, as, otherwise, great damage would have been done. The forecasts for rain in that section were timely and influenced the price of wheat on the board of trade. Warnings were sent out on the 6th and 7th in advance of the frosts which occurred in the Northwestern States. The only storm that caused general high winds in the upper Lake region occurred on the 28th and 29th, and warnings were issued in ample time to advise all vessel interests.—H. J. Cox, Professor.

SAN FRANCISCO FORECAST DISTRICT.

No severe storms occurred, and there were no northers in the great valleys to injure crops. On the morning of the 4th